



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/893,122	06/26/2001	Hassan Mostafavi	264/027	4891

23639 7590 03/03/2003

BINGHAM, MCCUTCHEN LLP  
THREE EMBARCADERO, SUITE 1800  
SAN FRANCISCO, CA 94111-4067

[REDACTED] EXAMINER

CHURCH, CRAIG E

ART UNIT	PAPER NUMBER
2882	

DATE MAILED: 03/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<i>Office Action Summary</i>	Application No.	Applicant(s)
	Examiner	Group Art Unit

*4b*  
—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication .
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

**Status**

- Responsive to communication(s) filed on 1/29/03.
- This action is FINAL.
- Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

**Disposition of Claims**

- Claim(s) 1-95 is/are pending in the application.
- Of the above claim(s) 60-79 is/are withdrawn from consideration. *Canceled*
- Claim(s) 1-16, 26-49 is/are allowed.
- Claim(s) 17-25, 50-59, 80-95 is/are rejected.
- Claim(s) \_\_\_\_\_ is/are objected to.
- Claim(s) \_\_\_\_\_ are subject to restriction or election requirement.

**Application Papers**

- See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- The proposed drawing correction, filed on \_\_\_\_\_ is  approved  disapproved.
- The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- The specification is objected to by the Examiner.
- The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. § 119 (a)-(d)**

- Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- All  Some\*  None of the CERTIFIED copies of the priority documents have been received.
- received in Application No. (Series Code/Serial Number) \_\_\_\_\_.
- received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_.

**Attachment(s)**

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Information Disclosure Statement(s), PTO-1449, Paper No(s). _____ | <input type="checkbox"/> Interview Summary, PTO-413                     |
| <input checked="" type="checkbox"/> Notice of Reference(s) Cited, PTO-892                             | <input type="checkbox"/> Notice of Informal Patent Application, PTO-152 |
| <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review, PTO-948                      | <input type="checkbox"/> Other _____                                    |

**Office Action Summary**

Claims 17-20, 50-59 and 80-95 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The limitations conveyed by the terms "physiological gating" (gating what?) in claim 17 are unclear. The limitations conveyed by "physiological activity" and "gating the medical procedure" (gating what?) in claim 50 are obscure. The meaning of "gating is performed retrospectively" in claim 59 is unclear. There is no antecedent basis for "the physiological movement of the patient" in claim 85. Claim 87 is incomplete since no gating step is recited even though the preamble proclaims a method of gating.

The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Claims 17-20 and 87-95 are rejected under 35 U.S.C. § 103 as being unpatentable over Hounsfield (3952201). Hounsfield teaches a CT scanner comprising an x-ray source 2 and detector 6 mounted on a rotating gantry 7 driven by motor 8, ecg monitor 10 and speed control 12 for adjusting the motor speed dependent on motion of the heart. The two states in the heart cycle that represent the source on and off conditions in Hounsfield are movement above the designated threshold and movement below the threshold or the beginning and ending of specific phases of movement. Lines 66 of column 3 to 11 of column 4 explain an embodiment in which image data is correlated with motion data so as to select the image data that meets prescribed criteria. It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the Hounsfield technique with other imaging modalities such as MRI and PET.

Claims 21-25 are rejected under 35 U.S.C. § 103 as being unpatentable over Hsieh (5271055). Hsieh teaches a method of applying x-ray radiation to a patient during CT imaging so as to predict the quiescent state of the patient and to compensate for delays inherent in the x-ray system between the issuance of an expose command and the actual exposure comprising acquiring signals indicative of the patient's respiration as a reference, designating in the reference when to issue an expose command so as to place the exposure in the quiescent period, comparing current respiration to the reference, determining the degree of correlation and issuing

Serial No. 893,122  
Art Unit 2882

-4-

the expose command when satisfactory correlation is achieved. Lines 9-19 of column 8 explain that correspondence with the reference may be ascertained by adaptive correlation, least mean squares, recursive least squares or other techniques. See line 60 of column 4 to line 5 of column 5, lines 47-51 of column 5 and 1-14 of column 7.

Claims 1-16 and 26-49 are allowed

Any inquiry concerning this communication should be directed to Examiner Church at telephone number (703) 308-4861.

*Craig E Church*

CRAIG E. CHURCH  
Senior Examiner  
ART UNIT 2882